

WHAT IS CLAIMED IS:

1. An antenna arrangement for use in connection with communicating with and identifying at least one identification element in operable communication with at least one object located in an enclosure having at least one “null” signal region, the antenna arrangement comprising:

a primary antenna loop element positioned in operable communication with the enclosure and the at least one identification element positioned within the enclosure, the primary antenna loop element configured to communicate with the at least one identification element and receive a signal from the at least one identification element, thereby tracking the at least one object associated therewith;

at least one feed point mechanism in communication with the primary antenna loop element and configured to at least one of energize the primary antenna loop element, transmit signals and receive signals;

at least one subsequent antenna element in operable communication with the enclosure and the at least one identification element positioned within the enclosure, the at least one subsequent antenna element configured to substantially eliminate the signal “null” region, such that at least one of the primary loop element and the subsequent antenna element can communicate with the identification element.

2. The antenna arrangement of claim 1, wherein the primary antenna loop element further comprises a perimeter portion positioned substantially adjacent a corresponding perimeter are of a surface of the enclosure.

3. The antenna arrangement of claim 1, wherein the enclosure further comprises at least one surface positioned therein.

4. The antenna arrangement of claim 3, wherein the surface acts as a shelf and supports the at least one object thereon.

5. The antenna arrangement of claim 1, wherein the subsequent antenna element is at least one subsequent antenna loop element positioned in a spaced relationship with the primary antenna loop element.

6. The antenna arrangement of claim 5, wherein the at least one subsequent antenna loop element is vertically spaced from and substantially in alignment with the primary antenna loop element.

7. The antenna arrangement of claim 5, wherein the directional flow of current through the at least one subsequent antenna loop element and the primary antenna loop element are identical, thereby yielding a cumulative field effect.

8. The antenna arrangement of claim 5, wherein the primary antenna loop element at the at least one subsequent loop arrangement are positioned substantially adjacent a respective surface within the enclosure.

9. The antenna arrangement of claim 1, wherein the subsequent antenna element is an inner antenna element extending within an inner area of the primary antenna loop element and in operable communication with the primary antenna loop element.

10. The antenna arrangement of claim 9, wherein the feed point mechanism provides current to the primary antenna loop element, the current flows through the primary antenna loop element and further through the inner antenna element.

11. The antenna arrangement of claim 9, wherein the inner antenna element substantially bisects the primary antenna loop element.

12. The antenna arrangement of claim 9, wherein the inner antenna element is offset with respect to an axis substantially bisecting the primary antenna loop element.

13. The antenna arrangement of claim 1, wherein the subsequent antenna element is a plurality of inner antenna elements extending within an inner area of the primary antenna loop element and in operable communication with the primary antenna loop element.

14. The antenna arrangement of claim 13, further comprising a switch mechanism in communication with the feed point mechanism and having at least one lead switchable between the plurality of inner antenna elements, such that at least one of the inner antenna elements are selectively powered by the feed point mechanism via the lead of the switching mechanism.

15. The antenna arrangement of claim 14, wherein the switching mechanism is in communication with and controllable by a control mechanism configured to control at least one of the switching timing and switching sequence.

16. The antenna arrangement of claim 15, wherein the control mechanism is at least one of computing device, a printed circuit board, a software program, a control program, a personal computer, a laptop, a personal digital assistant, a networked device and a server.

17. The antenna arrangement of claim 15, wherein at least one of the switching timing and switching sequence are formula based, static, dynamic, synchronized, user-defined and intelligent.

18. The antenna arrangement of claim 13, wherein the feed point mechanism provides current to at least one of the plurality of inner antenna elements, the current flows through the at least one of the plurality of inner antenna elements and further through the primary antenna loop element.

19. The antenna arrangement of claim 13, wherein at least one of the plurality of inner antenna elements substantially bisects the primary antenna loop element.

20. The antenna arrangement of claim 13, wherein at least one of the plurality of inner antenna elements is offset with respect to an axis substantially bisecting the primary antenna loop element.

21. The antenna arrangement of claim 1, wherein the subsequent antenna element is a plurality of inner antenna elements extending within an inner area of at least one of the primary antenna loop element and at least one subsequent antenna loop element, each of the inner antenna elements in operable communication with the respective primary antenna loop element and at least one subsequent antenna loop element.

22. The antenna arrangement of claim 21, further comprising at least one switch mechanism in communication with at least one feed point mechanism and having at least one lead switchable between the plurality of inner antenna elements, such that at least one of the inner antenna elements are selectively powered by the feed point mechanism via the lead of the switching mechanism.

23. The antenna arrangement of claim 22, wherein the at least one switching mechanism is in communication with and controllable by a control mechanism configured to control at least one of the switching timing and switching sequence.

24. The antenna arrangement of claim 22, wherein at least one of the switching timing and switching sequence are formula based, static, dynamic, synchronized, user-defined and intelligent.

25. The antenna arrangement of claim 21, wherein the feed point mechanism provides current to at least one of the plurality of inner antenna elements, the current flows through the at least one of the plurality of inner antenna elements and further through the primary antenna loop element and the at least one subsequent antenna loop element.

26. The antenna arrangement of claim 21, wherein at least one of the plurality of inner antenna elements substantially bisects the respective primary antenna loop element and at least one subsequent antenna loop element.

27. The antenna arrangement of claim 21, wherein at least one of the plurality of inner antenna elements is offset with respect to an axis substantially bisecting the respective primary antenna loop element and at least one subsequent antenna loop element.

28. The antenna arrangement of claim 21, wherein the enclosure further comprises a plurality of surfaces positioned therein.

29. The antenna arrangement of claim 28, wherein at least one of the plurality of surfaces act as a shelf and supports the at least one object thereon.

30. The antenna arrangement of claim 28, wherein each respective subsequent antenna element is positioned substantially adjacent a respective one of the plurality of surfaces.

31. The antenna arrangement of claim 1, further comprising a signal reader in communication with the feed point mechanism and configured to at least one of receive, process and transmit signals with respect to at least one of the primary antenna loop element and the subsequent antenna element.

32. The antenna arrangement of claim 1, further comprising a plurality of feed point mechanisms in communication with a multiplexor mechanism configured to at least one of receive, process and transmit signals.

33. The antenna arrangement of claim 32, further comprising a control mechanism in communication with the multiplexor mechanism and configured to control the functioning of the multiplexor mechanism.

34. The antenna arrangement of claim 1, further comprising a tuning mechanism in communication with at least one of the primary antenna loop element and the subsequent antenna element and configured to at least one of match, tune and manipulate the characteristics of the primary antenna loop element and the subsequent antenna element.

35. The antenna arrangement of claim 1, wherein the identification element is at least one of a tag and a label affixed to each object and configured to emit a unique signal corresponding the identity of the object.

36. The antenna arrangement of claim 1, wherein the at least one object is a medical item.

37. The antenna arrangement of claim 36, wherein the medical item is at least one of a container of medicine and a medical device.